

Title (en)

Glass fiber laser system using uranium-doped crystal Q-switch

Title (de)

Glasfaserlaser mit Güteschaltung durch Uran-dotierten Kristall

Title (fr)

Laser en fibre de verre à déclenchement par cristal dopé à l'uranium

Publication

**EP 0790684 A2 19970820 (EN)**

Application

**EP 97300384 A 19970121**

Priority

US 58980796 A 19960122

Abstract (en)

A glass fiber laser system (20) includes a laser resonator cavity (22) having a resonant path (23) and an erbium-doped glass fiber lasing element (28) with an emitted coherent light beam of from about 1.5 to about 1.6 micrometers within the laser resonator cavity (22). A pumping light source (32) directed into an input end of the glass fiber lasing element (28) optically pumps the lasing element (28) to emit light. A passive Q-switch (38) lies along the resonant path (23) within the laser resonator cavity (22). The Q-switch (38) is formed of a host material having a concentration of uranium ions therein, so as to be a saturable absorber of the light emitted by the lasing element. The Q-switch (38) is preferably a uranium-doped fluoride crystal such as U:CaF<sub>2</sub>, U:SrF<sub>2</sub>, or U:BaF<sub>2</sub>. <IMAGE>

IPC 1-7

**H01S 3/113**; **H01S 3/06**

IPC 8 full level

**H01S 3/067** (2006.01); **H01S 3/113** (2006.01); **H01S 3/0941** (2006.01); **H01S 3/16** (2006.01); **H01S 3/17** (2006.01)

CPC (source: EP US)

**H01S 3/067** (2013.01 - EP US); **H01S 3/113** (2013.01 - EP US); **H01S 3/0941** (2013.01 - EP US); **H01S 3/09415** (2013.01 - EP US); **H01S 3/1608** (2013.01 - EP US); **H01S 3/1643** (2013.01 - EP US); **H01S 3/1698** (2013.01 - EP US); **H01S 3/175** (2013.01 - EP US)

Cited by

EP2487762A3

Designated contracting state (EPC)

CH DE ES FR GB IT LI

DOCDB simple family (publication)

**EP 0790684 A2 19970820**; **EP 0790684 A3 19980603**; CA 2195598 A1 19970723; CA 2195598 C 20010529; IL 120032 A0 19970415; IL 120032 A 19990714; US 5652756 A 19970729

DOCDB simple family (application)

**EP 97300384 A 19970121**; CA 2195598 A 19970121; IL 12003297 A 19970117; US 58980796 A 19960122